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10/054,818	01/25/2002	Yoshiki Fukui	111795	5770
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OLIFF & BERRIDGE, PLC P.O. BOX 19928 ALEXANDRIA, VA 22320			EXAMINER LEE, HWA C	
			ART UNIT 2672	PAPER NUMBER

DATE MAILED: 10/21/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/054,818

Applicant(s)

FUKUI ET AL.

Examiner

Hwa C Lee

Art Unit

2672

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE \_\_\_\_ MONTH(S) FROM  
THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☐ Claim(s) \_\_\_\_ is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☐ Claim(s) \_\_\_\_ is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |   |  |
|---|--|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. ____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                  | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)            |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date ____ | 6) <input type="checkbox"/> Other: ____  |

### DETAILED ACTION

1. This office action is in response to the supplemental amendment filed 07/16/2004.

#### ***Claim Rejections - 35 USC § 103***

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

4. Claims 1-6, 9-10, and 13-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Segawa et al., PCT/JP99/02956 (WO 00/76154). Because PCT/JP99/02956 is in Japanese, US Patent Application Publication No. 2002/0032037, which is continuation of PCT/JP99/02956, is relied upon as the English translation. Thus all paragraph references listed below regarding Segawa et al. is to be directed to US Patent Application Publication No. 2002/0032037.

5. In regards to claim 1, Segawa et al. teaches ***a service providing system for associating service with a virtual object having a specified location and a variable***

***shape corresponding to a specified space, for disposing the virtual object in a virtual space associated with an actual space, and for providing service corresponding to the specified space according to a positional relationship between a movable mobile member and the virtual object, comprising:*** (Paragraph [0100] – [0108])

- ***The virtual object in a virtual space associated with an actual space*** as disclosed by the applicant is specifically an imaginary boundary, wherein the presence of a mobile object within said virtual object (imaginary boundary) triggers a service providing system to provide service associated with said virtual object (imaginary boundary) to the mobile object. Thus, the virtual communication space as taught by Segawa et al. (Embodiment 4) is specifically ***a virtual object in a virtual space associated with an actual space***. Segawa et al. teaches the mobile member attached to a shopping cart moving throughout the store. In said store each virtual communication space corresponding to specific sales areas are defined in a way not to interfere with adjacent virtual communication space corresponding to adjacent sales area (Paragraph [0102]). Segawa et al. teaches using electromagnetic shields on the walls and product shelves in order to confine the virtual communication space to the specific corresponding sales area. Thus, said electromagnetic shields specifically define the virtual communication space (virtual object) to a specified location and a variable shape. In addition, providing location dependent services when the shopping cart (mobile member) is within the virtual communication space

(Paragraph [0105]) is specifically ***providing service corresponding to the specified space according to a positional relationship between a movable mobile member and the virtual object***. Further, in order to provide service corresponding to the specified space, the service providing system must ***associate service with a virtual object***. In other words, if the shopping cart (mobile member) is within the virtual communication space, the shopping cart (mobile member) will receive the service corresponding to the sales area and the products displayed on said sales area. Otherwise, no service is received. This is specifically the same limitation recited by the applicant in the instant claim.

***a storage device that associates object information related to a shape and location of the virtual object with service information specifying a service content, and that stores the object and service information;***

- Segawa et al. teaches a plurality of virtual communication space providing portions, each corresponding to specific sales region (Paragraph [0102] and FIG 2, No. 30). Segawa et al. also teaches that the virtual communication space providing portion defines the limited space of the real world and assigns a communication channel of specified frequency to the user terminals in that space thus providing and supervising the virtual communication space (Paragraph [0064]). Since the virtual communication space is provided according to the user sent information and location of the user (mobile member), said user sent information storage means specifically is specifically a storage device as recited in the instant claim.

6. In embodiment 4, Segawa et al. explicitly teaches determining if the mobile member is within the virtual communication space (Paragraph [0102]), which specifically is obtaining the **location information used for identifying a location of the mobile member**. When the shopping cart user terminal enters the product sales area supervised by the corresponding virtual communication space providing portion, said shopping cart user terminal receives the communication channel identification information sent into said virtual communication space and proceeds to login to the communication channel. Thus, the communication identification information notifying means (32) of the virtual communication providing means acquires the presence of the shopping cart user terminal in the virtual communication space. Said communication identification information notifying means (32) of the virtual communication providing means functions specifically as **a location-information acquisition device**. In addition, in embodiment 3, Segawa et al. explicitly teaches sensing the location of the user terminal (mobile member) by using GPS (Paragraph [0087]-[0092] and FIG. 6). Depending on the detected location of the user terminal, service information corresponding to said location is provided by creating the virtual communication space corresponding to said location of the user terminal. Thus, said GPS signal receiving portion of the user terminal (21b) is also specifically a location-information acquisition device.

7. In addition, Segawa et al. explicitly teaches **wherein, when it is determined according to the location information obtained by the location-information acquisition device and the object information stored in the storage device that the**

***mobile member is disposed in an inside area of the specified space identified by the shape and location of the virtual object, service corresponding to the specified space is provided according to the service information stored in the storage device***

- As applied above, Segawa et al. discloses the limitation of determining if the shopping cart (mobile member) is located within the virtual communication space, and if so, the location-dependent service information is transmitted to the mobile member (Paragraph [0102]).
- Segawa et al. also teaches the limitation of a ***location-information acquisition device*** as applied above.

8. It would have been obvious to one of ordinary skill in the art to take the teachings of Segawa et al. (Embodiment 4) and to add from Segawa et al. (Embodiment 3) the GPS receiver in order to determine the location of the mobile member. Once, the location of the mobile member is determined, the corresponding service information can be transmitted to the mobile member. GPS is a standard positioning device used in a plurality of a mobile devices, and it would have been obvious to add the GPS unit to the mobile user terminal as taught by Segawa et al. to perform the said location determination function. In addition, all references are directed to a system of providing location-dependent service information to a mobile device. By incorporating the GPS into the shopping cart, the location of said shopping cart (customer) could be easily known at all times and thus provide accurate location dependent service corresponding to said sales area and product.

9. In regards to claim 2, the same basis and rationale for claim rejection as applied to claim 1 are applied. In addition, Segawa et al. teaches the following:

***A service providing system according to claim 1, the mobile member and a management terminal that manages the specified space being connected in a communication-allowed manner;***

- As applied to claim 1 above, Segawa et al. teaches a supervising terminal (FIG. 3, No. 40), which is specifically ***a management terminal***. Said supervising terminal monitors and analyzes the user sent information and freely set and supervise the virtual communication spaces (Paragraph [0064]-[0065]). Thus, said supervising terminal manages the specified space and the service provided to the mobile member present in said specified space.

***the mobile member includes the location-information acquisition device*** (FIG. 7, No. 21b),

***and sends the location information obtained by the location-information acquisition device to the management terminal*** (Paragraph [0087] - [0098])

- When the user terminal receives from the GPS satellite the location of the user terminal, it is transmitted to the virtual communication space provider in order to provide corresponding service to the user terminal corresponding to said specified space of the virtual communication space created.

***and the management terminal having the storage device*** (FIG. 2, No. 43),

***and when the management terminal receives the location information, the management terminal determines, according to the received location information***



***and the object information stored in the storage device, whether the mobile member is disposed in the inside area of the specified space identified by the shape and location of the virtual object*** (Paragraph [0102] and [0094]-[0098]).

- As applied above, Segawa et al. teaches that when the user terminal moving into the virtual communication space, the presence of said user terminal is detected via a plurality of means, wherein the service corresponding to said virtual communication space is provided to the user. Since Segawa et al. explicitly teaches that the virtual communication space can be confined to a specific shape and location, and said service provided is confined to said shape and location of the virtual communication space, said detection of the user terminal is determined to be inside said virtual communication space identified by the shape and location of the virtual object. In other words, said virtual communication space is confined by imaginary boundary of varied shape and specific location, which can be altered by using electromagnetic shielding. Thus, when the user terminal is determined to be inside said virtual communication space, said determination is identified by the shape and the location of the virtual object (the boundary of the virtual communication space).

10. In regards to claim 3, the same basis and rationale for claim rejection as applied to claims 1 and 2 are applied to reject the following:

***A service providing system according to claim 1, the mobile member and a management terminal that manages the virtual object being connected in a communication-allowed manner; the management terminal includes the storage***

*device, and sends the object information stored in the storage device to the mobile member; and the mobile member includes the location-information acquisition device, and when the mobile member receives the object information, the mobile member determines, according to the location information obtained by the location-information acquisition device and the received object information whether the mobile member is disposed in the inside area of the specified space identified by the shape and location of the virtual object.*

- As applied above, Segawa et al. teaches the supervising terminals (**management terminals**) as applied to claims 1-2 above. Said supervising terminals are in communication with the user terminal (**mobile member**) only when the user terminal is within the virtual communication space. Thus, the supervising terminal freely sets and supervises the shape, location and communication channel (**object information**) of each virtual communication spaces to the mobile station. In addition, the supervising terminal utilizes the user sent information stored in the user sent information database and the communication table to perform communication between the user terminal and the virtual communication space provider in order to provide specific service to said user terminal when said user terminal is inside the virtual communication space. When the user terminal is determined to be inside of the virtual communication space (**virtual object**), the determination must be performed based on the shape and location of the operating range.

11. In regards to claim 4, the same basis and rationale for claim rejection as applied to claims 1-3 are applied.

***A service providing system according to one of claim 2, wherein, when the result of the determination indicates that the mobile member is disposed in the inside area of the specified space identified by the shape and location of the virtual object, the management terminal provides service corresponding to the virtual object based on the service information stored in the storage device.***

- As applied above, Segawa et al. explicitly teaches that when the user terminal is detected to be inside a specific virtual communication space, a service corresponding to said virtual communication space is provided to the user terminal, which specifically is the communication channel medium stored in the supervising terminal.

12. In regards to claim 5, the same basis and rationale for claim rejection as applied to claim 4 are applied.

***A service providing system according to one of claim 2, the management terminal sending the service information stored in the storage device to the mobile member, and when the result of the determination indicates that the mobile member is disposed in the inside area of the specified space identified by the shape and location of the virtual object, the mobile member provides service corresponding to the virtual object based on the received service information.***

- As applied above, when the shopping cart user terminal is determined to be inside the virtual communication space, the service corresponding to the virtual

communication space is provided to the user terminal, wherein the user can receive said service such as product information pertaining to the product sales area.

13. In regards to claim 6, the same basis and rationale for claim rejection as applied to claims 1-2 are applied.

***A service providing system according to one of claim 2, the management terminal further comprising: an input that performs an input related to at least one of generation, deletion, and update of the object information; and an object-information processing device that generates, deletes, or updates the object information according to the content of the input performed by the input device.***

- As applied above, Segawa et al. teaches the supervising terminal, which monitors and analyzes the user sent information and updates the correspondence table, which specifically is ***updating*** the object information. In addition, in FIG. 4, the user terminal comprises an information input means, which specifically is ***an input that performs an input related to at least one of generating, deleting, and update of the object information*** since said information input means is used to send information to other user terminals and the virtual communication space provider (Paragraph [0063] and FIG. 4).
- In addition, Segawa et al. teaches the user terminal, which comprises channel login/logout means (22), communication means (23), and communication application (24), which specifically is a software program for controlling/utilizing communication with the virtual communication space provider. Thus, said

components of the user terminal (22-24) specifically are ***object-information processing device***, which ***generates, deletes, or updates the object information according to the content of the input performed by the input device***. Said communication between the user terminal and the virtual communication provider is updated by the supervising terminal in the correspondence table (Paragraph [0065] and [0102]-[0110]).

14. In regards to claim 9, the same basis and rationale for claim rejection as applied to claims 4-5 are applied. Segawa et al. teaches providing service information comprising product information and allows the user to send preferences regarding said product (Paragraph [0102] – [0110]), which specifically are ***service information specifying a content of service in which notice information related to at least one of a notice and guidance information related to a guidance is provided for the mobile member***. The product information about special bargains about said products provides guidance to the user as a shopper.

15. In regards to claim 10, the same basis and rationale for claim rejection as applied to claims 1-5 are applied. Segawa et al. teaches a shopping cart user terminal as applied to claims 1-5 above, which specifically is a ***mobile member being a portable terminal***.

16. In regards to claim 13, the same basis and rationale for claim rejection as applied to claim 2 are applied.

17. In regards to claim 14, the same basis and rationale for claim rejection as applied to claims 1-3 are applied.

18. In regards to claim 15, the same basis and rationale for claim rejection as applied to claims 1 and 6 are applied. The communication application (24), which specifically is software program for controlling/utilizing communication with the virtual communication space provider specifically is **a service providing program**, since said controlled communication with the virtual communication space provider allows the service corresponding to said virtual communication space to be provided to the user terminal.

19. In regards to claim 16, the same basis and rationale for claim rejection as applied to claims 11 and 15 are applied.

20. In regards to claim 17, the same basis and rationale for claim rejection as applied to claims 12 and 16 are applied.

21. In regards to claim 18, the same basis and rationale for claim rejection as applied to claim 15 are applied.

22. In regards to claim 19, the same basis and rationale for claim rejection as applied to claim 16 are applied.

23. In regards to claim 20, the same basis and rationale for claim rejection as applied to claim 17 are applied.

24. Claims 7-8 and 11-12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Segawa et al. as applied to claims 1-6, 9-10, and 13-20 above, and further in view of Stewart, U.S. Patent No., 6,697,018.

25. In regards to claim 7, Segawa et al. teaches all limitation of claims 4-5 as applied above, but do not disclose **the service information being operation information**

***specifying a content of an operation of the mobile member or another apparatus.***

Stewart, however, discloses the said limitation.

- Stewart discloses a method and apparatus for providing service information to a mobile unit based on the proximity of the device to a service access point (Col. 2, lines 56-65). When the presence of the mobile device is detected at proximity of the service access point, the service access point sends a print request from the mobile unit to a printer or an E-mail message to the user's rental car agency (Col. 3, lines 6-17). Said print request and E-mail messaging specifically are ***service information being operation information*** for operating the printer and the E-mail program (***another apparatus***).

26. It would have been obvious to one of ordinary skill in the art to take the teachings of Segawa et al., and to add from Stewart the method and apparatus of providing operation information for operating a printer or the E-mail program. Said operation information is used to operate the printer or the E-mail program when the mobile unit is determined to be located within the virtual object as applied to claims 4-5 above.

Detection of the mobile unit by the service access point as disclosed by Stewart is an analogous operation to the detection of the user terminal as disclosed by Segawa et al. Said operation of the printer and the E-mail program allows a busy traveler to print a document or send an E-mail while en route to a destination. Such practice can be used to pre-register for a hotel or a rental car in order to save the user from standing in line and have the hotel room or the rental car ready for the user to use when the user

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arrives at the destination. In addition, all references are directed to providing location-dependent service information to a mobile unit/device.

27. In regards to claim 8, the same basis and rationale for claim rejection as applied to claims 1-5 and 7 are applied. In addition, Stewart discloses that ***the service information specifying a content of service in which media information related to at least one of characters, images, and video is provided for the mobile member*** (Col. 4, lines 13-15).

28. It would have been obvious to one of ordinary skill in the art to take the teachings of Segawa et al., and to add from Stewart the method and apparatus of providing service information comprising at least one of ***characters, images, and video*** in order to provide guiding or notice information to the user. The user maybe a traveler in need of a direction from a map and/or hotel and rental car information. Also, a user maybe in a museum, and when the user (and user's mobile device) is determined to be located inside of an imaginary boundary in front of a specific art work, video information describing the art work can be provided to the user's mobile device. In addition, all references are directed to providing location-dependent service information to a mobile unit/device.

29. In regards to claim 11, the same basis and rationale for claim rejection as applied to claims 1-5 and 7 are applied. Determining that the user terminal is located within the virtual communication space specifically is ***determining according to the object information stored in the storage device that the positional relationship between the mobile member and the virtual object satisfies a predetermined condition.***



30. In regards to claim 12, the same basis and rationale for claim rejection as applied to claims 6 and 11 are applied.

### ***Response to Arguments***

31. Applicant's arguments filed 6/29/04 and 07/16/04 have been fully considered but are moot in light of new grounds for rejections as outlined above.

32. Further, the applicant's arguments filed 6/29/04 and 07/16/04 have been fully considered but they are not persuasive. The examiner's reasoning follows.

33. The applicant's arguments center around two points. First, the applicant asserts that the prior art of record do not teach a virtual object as claimed by the applicant. Specifically, the applicant believes that the operating range of the communication beacon as taught by Lehtikoinen et al. does not constitute a virtual object. The examiner disagrees with this assertion. It is explicitly clear that the applicant's invention is directed to providing an area of broadly stated shape size and location, wherein a service is provided. When a portable device (of any kind well known in the art) is within this area, said portable device receives said service. Thus, it is explicitly clear that the applicant is defining said service as the virtual object. Using the same definition as broadly recited by the applicant, the communication coverage area of the communication beacon as taught by Lehtikoinen et al. specifically is a virtual object corresponding to a specific location.

34. Second, the applicant asserts in the amendments that the prior art of record do not teach a specified location and variable shape. As stated in the claim rejection

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above, Lehtikoinen et al. explicitly teaches said limitation. The predetermined operating range of the communication beacon specifically is a set specific location. Any location outside of the communication range (specific location) will not receive the service associated with said specific location. Further, the shape of the operating range will differ depending on the power of the communication beacon and the presence of overlapping operating ranges of other communication beacons.

35. Consequently, if the applicant is attempting to define the virtual object for creating computer simulation of the real-world space and location in the virtual world, the claimed recitation should be amended to closely and accurately match said definition of virtual object.

### ***Conclusion***

36. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of

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the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Hwa C Lee whose telephone number is 703-305-8987.

The examiner can normally be reached on M-F 8:00-5:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael Razavi can be reached on 703-305-4713. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Hwa C Lee  
Examiner  
Art Unit 2672

HCL  
10/15/04



MICHAEL RAZAVI  
SUPERVISORY PATENT EXAMINER  
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